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RefugeUpdate

National Wildlife Refuge System

www.fws.gov/refuges

Mount Hood and the moon rise over Oregon's Tualatin River National Wildlife Refuge. The refuge is home base for the U.S. Fish and Wildlife Service's second $1 million urban refuge project, the Portland-Vancouver Urban Wildlife Conservation Program. Learn more at http://1.usa.gov/1c83D0B (Bjorn Fredrickson/www.bjornfredrickson.com)

Martinez Is Named Chief Of the Refuge System

Cynthia Martinez has been named by U.S. Fish and Wildlife Service Director Dan Ashe as chief of the National Wildlife Refuge System. Martinez, a 21-year veteran of the Service, had served as deputy chief since 2012.

Martinez "possesses a diversity of experience working within the Service and National Wildlife Refuge System," Ashe said. "Cynthia also demonstrates the strong leadership and innovation the Service needs as we continue to introduce new generations of Americans to conservation."

Martinez started with the Service in the mid-1990s as a contaminants biologist in the Ecological Services office in Phoenix. She then moved to the Southern Nevada Ecological Services Office in Las Vegas, where over 15 years she held various positions from fisheries biologist to field supervisor.

From 2007 to 2010, she was refuge manager at the Desert National Wildlife Refuge Complex, which includes four refuges in southern Nevada: Desert Refuge, Ash Meadows Refuge, Moapa Valley Refuge and Pahranagat Refuge.

From 2010 to 2012, she served as chief of the Division of Visitor Services and Communications at Refuge System Headquarters. In that role, she oversaw

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Portland-Vancouver Refuges Aim to Be Bold and Audacious

By Bill O'Brian

As flagship of a metropolitan area's Urban Wildlife Conservation Program, Tualatin River National Wildlife Refuge in suburban Portland is a natural.

When the refuge was being established in 1992, "the community desire and original Refuge System vision was clear – establish Tualatin River as an urban refuge, long before 'urban' was a U.S. Fish and Wildlife Service priority," says Kim Strassburg, visitor services manager since 2003. "So I don't see this as a new reason for being. We have habitat. We have compatibility. We have wildlife. We abide by the Refuge System's philosophies, management tools, legislation, all the rules of the road, but we also have this additional dimension and responsibility."

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Chief's Corner

To Conversation Yet to Be Had

I became chief of the National Wildlife Refuge System on May 11. Just four years and eight months earlier, I was manager of the Desert National Wildlife Refuge Complex, overseeing the four national wildlife refuges in southern Nevada. Those four – Desert, Ash Meadows, Pahranagat and Moapa Valley – called me and are the reason that I am devoted to the National Wildlife Refuge System.

Cynthia Martinez

There are many "firsts" associated with my selection – first woman, first Hispanic, first to have worked in Ecological Services. Heck, we could also say that I am the first from New Mexico, where we love our green chile! At the end of the day, it matters to a lot of people. It matters to my family, who are prouder than anyone might expect. As much as my family mean to me – and they mean the world – it matters to a lot of people on the ground working on national wildlife refuges ... and that matters to me. I'm not sure why it's me, but I'm okay with it – and I will embrace it.

On the topic of my appointment, Lynn Greenwalt, former director of the U.S. Fish and Wildlife Service and chief of the Refuge System, wrote, "A truly big-time 'first' for everyone and an event too long in coming. I do have to say, though, that I am delighted that it waited for you to come along and you are the one to have broken the gender barrier for the Refuge System. [My wife] Judy is even more ecstatic, since she is a graduate of the era when women just did not stand a chance. As she has pointed out more than once, 'I could not possibly become a refuge manager, so I married one.' It was that difficult, once upon a time."

My first act as chief was to attend the Ambassadors Program team meeting at the National Conservation Training Center (NCTC), the home of the Service. There, we set the stage to develop the training that will offer folks the tools to engage our surrounding communities. As much as connecting to urban communities is a priority, we should not forget those rural communities within which we work and live.

The first national wildlife refuge that I visited after being named chief was J. Clark Salyer in North Dakota, a fitting choice, as it is the namesake of our first chief of the Refuge System. Thank you to Will Meeks and company for a memorable fish fry and for a great visit with the young conservationists who are the Youth Conservation Corps and our future. That photo of Jim Kurth – the previous chief of the Refuge System and now deputy director of the Service – and me at a mallard's nest will always represent what we stand for and the depth of our roots.

At the end of the day, I'm grateful for your e-mails and good wishes, and rest assured that we have our vision set forth in *Conserving the Future: Wildlife Refuges and the Next Generation*. As much as I look forward to seeing the majestic places that we are entrusted with managing, I most look forward to the conversations yet to be had with each of you who embrace the challenge of wildlife conservation.

Thank you for all that you do for wild places and wild creatures. I look forward to our next conversation.

"There are many 'firsts' associated with my selection," writes Chief Cynthia Martinez. "Heck, we could also say that I am the first from New Mexico" – home of Rio Mora National Wildlife Refuge and Conservation Area, above.(Brian Miller/Wind River Ranch)

Refuge Update

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Inside

Mountain Bogs Established as 563rd Refuge

Mountain Bogs National Wildlife Refuge became America's 563rd refuge this spring.

The refuge, which will include land in 11 counties in western North Carolina and two counties in eastern Tennessee, is devoted to the conservation of southern Appalachian mountain bogs, one of the rarest and most imperiled habitats in the United States.

"The establishment of Mountain Bogs National Wildlife Refuge marks a turning point in the efforts of a number of dedicated partners in preserving this unique and threatened habitat," U.S. Fish and Wildlife Service deputy director Jim Kurth said at an April 22 ceremony announcing the refuge. "It will provide a focal point for mountain bog conservation in the area, and highlights the importance of our National Wildlife Refuge System in preserving our nation's spectacular biodiversity for future generations of Americans."

The Nature Conservancy donated an easement on a 39-acre parcel in Ashe County, NC, which formally established the refuge. North Carolina is home to 11 refuges; Mountain Bogs Refuge is the first one west of Charlotte.

"While western North Carolina has beautiful swaths of conserved public lands, mountain bogs, which are home to several endangered species, are largely unprotected," said Mike Oetker, deputy regional director for the Service's Southeast Region. "People have worked for decades to conserve these bogs, and creating this refuge was an opportunity to build on that effort in a significant way."

Mountain bogs are typically small and widely scattered across the landscape, often isolated from other wetlands. Mountain bogs are home to five endangered species – bog turtles, green pitcher plant, mountain sweet pitcher plant, swamp pink (a lily) and bunched arrowhead.

A trout lily flower emerges on the first parcel of land donated as an easement to establish Mountain Bogs National Wildlife Refuge in western North Carolina and eastern Tennessee. (Gary Peeples/USFWS)

They also provide habitat for migratory birds and game animals, including mink, woodcock, ruffed grouse, turkey and wood duck. Bogs are breeding habitat for many species of amphibians, especially salamanders, of which the southern Appalachians have the greatest diversity in the nation.

Bogs also provide key benefits to humans. They have a natural capacity for regulating water flow, holding floodwaters like giant sponges and slowly releasing water to nearby streams, decreasing the impacts of floods and droughts.

In addition to The Nature Conservancy, Carolina Mountain Land Conservancy has long been active in bog conservation and has been supportive of establishing the refuge.

"Southern Appalachian bogs are biodiversity hotspots," said Kieran Roe, executive director of the Carolina Mountain Land Conservancy. "But they are disappearing from our region at a rapid rate. Less than 20 percent of the mountain bogs that once existed still remain, so their protection is critical."

The refuge may eventually grow to 23,000 acres, depending on the willingness of landowners to sell and the availability of funds to purchase those lands. To guide acquisition, and bog conservation in general, the Service has identified 30 sites, or Conservation Partnership Areas, containing bogs and surrounding lands.

The sites are scattered across Alleghany, Ashe, Avery, Clay, Graham, Henderson, Jackson, Macon, Transylvania, Wilkes and Watauga counties in North Carolina, and Carter and Johnson counties in Tennessee. The Service will look primarily within these Conservation Partnership Areas to acquire land and/or easements.

For those acres that won't be acquired, the Service will work to support private landowners in their stewardship activities. Money to acquire land and easements would likely come from the Land and Water Conservation Fund, funded by fees collected from the sale of publicly owned offshore oil and gas drilling leases.

While some parts of the refuge would likely be too fragile for recreation, the Service anticipates other parts could be open for wildlife-based recreation, including hunting, fishing, wildlife observation and photography, education and interpretation.

Four Years of *Conserving the Future*

By Heather Jerue

In the words of U.S. Fish and Wildlife Service deputy director Jim Kurth, four years ago the National Wildlife Refuge System decided to "take the ol' compass out, get our bearings and make sure we know where we are going."

Since July 2011, when Service employees and partners gathered in Madison, WI, to ratify the vision for the next decade, *Conserving the Future: Wildlife Refuges and the Next Generation* has been that compass.

"When the leadership team is talking about priorities for the National Wildlife Refuge System, they're all based in the recommendations in *Conserving the Future.*

We have a road map for where we're going," says Chief Cynthia Martinez.

Refuge staff members nationwide have strategically and collaboratively addressed the mounting challenges faced in conserving fish, wildlife and plant habitats in a rapidly changing world.

"We have some really big game-changing sorts of products that have come out of *Conserving the Future*," Martinez says, citing the strategic growth policy and integration of landscape conservation design into Refuge System decisions. Other products "make things more efficient for our folks," she says.

As the fourth anniversary approaches, here are a few *Conserving the Future*-inspired products that focus on scientific excellence at landscape scale for the benefit of a diverse public while nurturing the next generation of conservation leaders.

Scientific Excellence

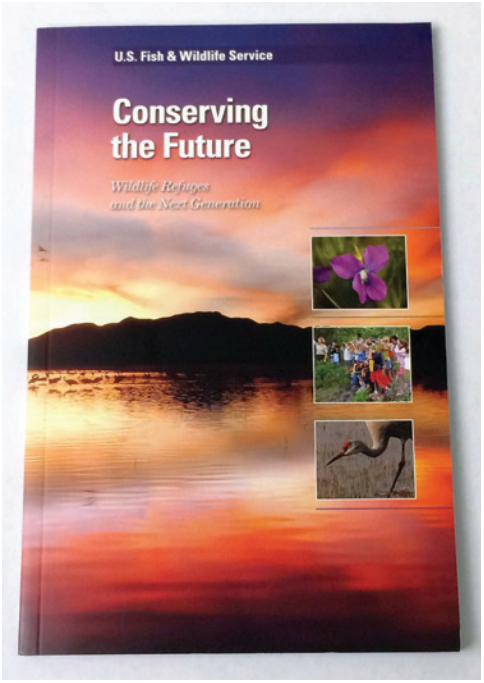
- "7-Year Inventory and Monitoring Plan" that outlines policies and protocols (*http://1.usa.gov/1Aqrv5V*).
- ServCat, an online database for storing and sharing a wide range of documents (*https://ecos.fws.gov/ServCat/*).

Landscape Scale

- A strategic growth policy for the Refuge System that focuses on threatened and endangered species, waterfowl and migratory birds.
- "Planning for Climate Change on the National Wildlife Refuge System".

Benefit of a Diverse Public

- The Ambassador Program, which will help refuges deliver conservation in a friendly and inspirational voice to better connect to local communities and visitors, will be rolled out nationwide in the next year or so.
- VS Connect, an online platform enables visitor services professionals, including partners and volunteers, to share resources and best practices.
- "Introduction to Social Media and 'How To' Guide," a primer for promoting refuges (*http://bit.ly/1DPMksX*).
- "Working with Volunteers, Friends Organizations and Community Partnerships E-Guide" (*http://1.usa.gov/1DPMqAK*).
- "Volunteer and Partner Involvement in the National Wildlife Refuge System," which integrates key concepts into all aspects of employee training programs (*http://1.usa.gov/1GNKcba*).
- "Friends Partnership Mentoring Program Action Plan," which addresses the needs of a maturing Friends program and includes face-to-face peer-to-peer coaching and information-sharing among a trained mentor team, refuge staff and board members (*http://1.usa.gov/1JGeZY8*).
- "Meet the National Wildlife Refuge System: Special Places Where Wildlife and People Thrive," a primer for new employees, volunteers, Friends and others (*http://1.usa.gov/1JGf9Pr*).
- The Urban Wildlife Conservation Program, which is designed to engage urban communities as partners in wildlife conservation. Its website – *http://www.fws.gov/urban* – includes the Standards of Excellence, principles to live by for all refuges.



"When the leadership team is talking about priorities for the National Wildlife Refuge System, they're all based in the recommendations in Conserving the Future*," says Chief Cynthia Martinez.*

Next Generation

- A career-development guide for Service employees *(http://bit.ly/FWSEmployeeDevelopment).*
- A job-sharing site listing Service detail opportunities *(http://bit.ly/FWSDetails).*

"We're putting products out there so that people don't have to reinvent the wheel. They can take something off the shelf that is relevant to their daily jobs," says Martinez. "I see a commitment to actually implementing a strategic vision. We're doing what we said we were going to do."

All of the above products and more are available on the *Conserving the Future* website: *www.fws.gov/refuges/vision.*

Heather Jerue is a communications specialist in the Refuge System Division of Visitor Service and Communications.

Cleaner Air to the Top of the Mountains

By Martha Nudel

Ask the staff at Wichita Mountains Wildlife Refuge in Oklahoma what fouls the air and sometimes blankets the peak of Mount Pinchot – the highest mountain on the 59,000-acre refuge – and the answer comes quickly: the air from Texas.

That may significantly change in the next few years.

The Environmental Protection Agency is expected to finalize in September its federal plan for regional haze, which could cut emissions from coal-fired power plants, paper mills, oil and gas and cement production plants, and other haze-producing industries in Texas. The move is part of EPA's goal to clear the air in Class I visibility protection areas and reach the status of "no man-made impairments" by 2064, as required by the Clean Air Act passed in 1977.

There are 156 Class I visibility areas in the United States. The Department of the Interior manages 68, including 21 wilderness areas managed by the U.S. Fish and Wildlife Service. Class I areas include all national parks larger than 6,000 acres and all wilderness areas larger than 5,000 acres that existed as of 1977. EPA and other agencies have been monitoring visibility in wilderness areas since 1985 through a program called IMPROVE (*http://vista.cira.colostate.edu/improve/*), which identifies existing visibility conditions, tracks changes and helps to identify sources of visibility impairment.

The monitoring station at Wichita Mountains Refuge is an important part of that national monitoring network, which not only helps identify air pollution problems but will be critical in helping gauge the effectiveness of a Regional Haze Rule.

Wichita Mountains Refuge, which attracts about 1.6 million visitors annually, has worked with the Refuge System's Branch of Air and Water Resources – part of the Natural Resource Program Center – since March 2001 in measuring the level of coarse and fine particles in the air as well as scenic impairment.

The Environmental Protection Agency is expected to finalize in September its federal plan for regional haze, which could cut emissions from industries in Texas that affect the Class I wilderness area at Wichita Mountains Wildlife Refuge in Oklahoma. (Wilderness.net)

The haze problem at Wichita Mountains is – quite literally – visible. Texas and Oklahoma each submitted a State Implementation Plan to improve air quality and visibility over the next decade. EPA rejected that approach in favor of its own Federal Implementation Plan for Texas.

There are 156 Class I visibility areas in the U.S. The Department of the Interior manages 68, including 21 wilderness areas managed by the Service.

The Regional Haze Rule has its detractors. "The Environmental Protection Agency's proposed rule for regional haze in Texas is a costly so-called 'solution' with no perceptible benefit," wrote Brad Watson, communications representative for Luminant Corp., which produces more than 30 million tons of lignite coal annually and is the largest electricity generator in Texas.

But Tim Allen, a meteorologist with the Branch of Air and Water Resources, says, "visibility-impairing pollutants are the same pollutants that affect human health. These pollutants are controlled by the same technologies to improve ozone, particulate matter and visibility impacts. Human health and visibility in most of Texas, Oklahoma and parts of Arkansas will improve from this action.

"Sooner or later all power stations across the country are reviewed and potentially required to install post-combustion pollution controls. Very few non-controlled facilities remain. Congress made commitments for everyone to enjoy clean water and air. Laws to protect human health and treasured lands are designed to complement each other to encourage a cleaner environment throughout the entire country."

Clean air is critical to the wildlife that thrives at Wichita Mountains Wildlife Refuge. It is equally critical to the people who visit the refuge and to citizens who have an emotional stake in the place.

Donna Phillips, a full-time volunteer who has been active with the Friends of Wichita Mountains since 2001, summarized it well: "This refuge belongs to all of us. It's our heart."

"Natural Can't Ever Really Be Divorced From Cultural"

By Bill O'Brian

At heart, the National Wildlife Refuge System's management of cultural, historic and archaeological resources is a legal compliance matter, but U.S. Fish and Wildlife Service archaeologist Eugene Marino urges individual refuges also to look at cultural resources as opportunities to engage visitors and build relationships with local communities.

"The National Historic Preservation Act is what's called 'stop, look and consider' legislation," says Marino. "It does just that. It tells the agency, and it authorizes the agency, to consider cultural resources during its day-to-day mission and to make sure that these resources are not impacted by that day-to-day mission."

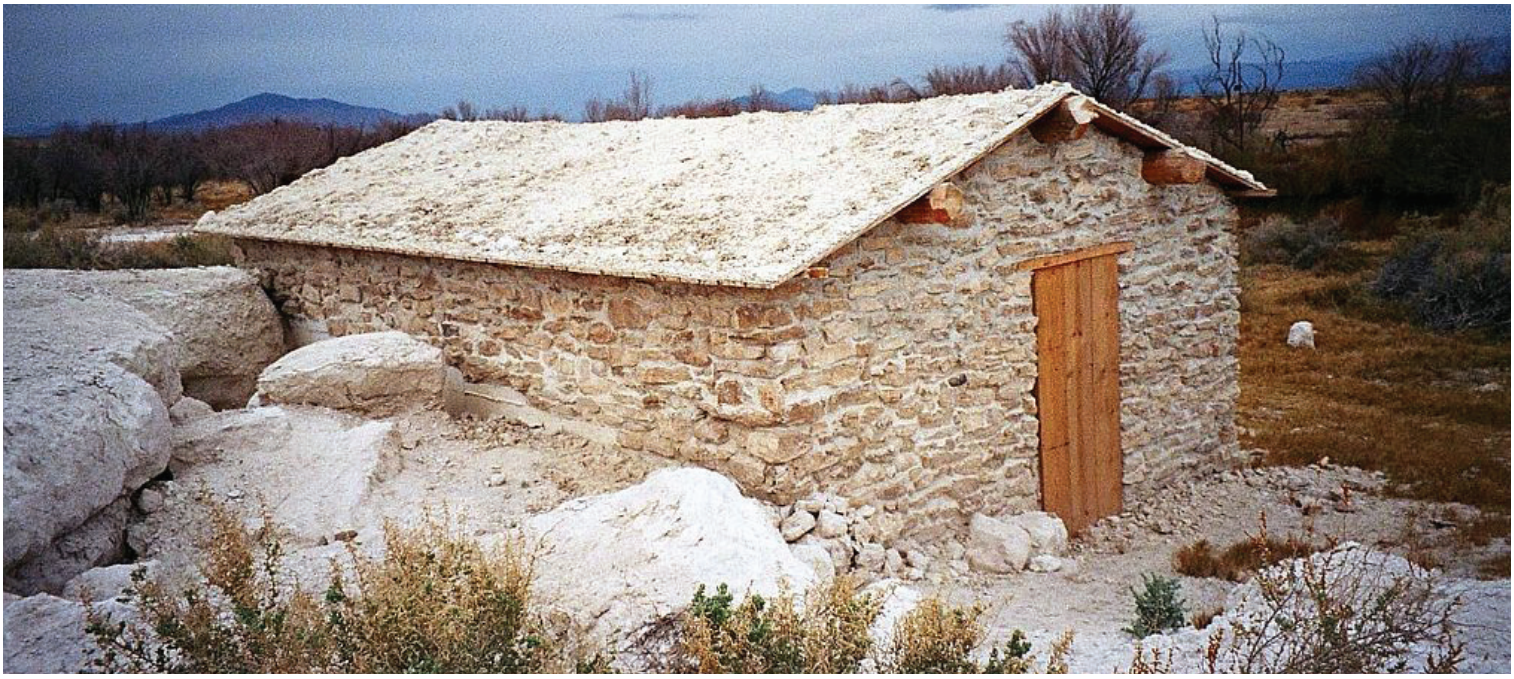
The NHPA, enacted in 1966, further mandates "that if you do identify that you are going to impact historic properties, then you have to follow a process to minimize that impact."

That's the compliance part of cultural resources.

"NHPA compliance is 98 percent of what we do, of what the 15 Service archaeologists do," says Marino, who notes that the Service cultural resources staff is the smallest in the Department of the Interior. "The biggest challenge is providing efficient service to the field … having an expert that they can reach out to who in a timely manner can get back to them."

Because of the compliance demands on regional archaeologists, outreach and relationship-building usually must be left to the field stations. Marino encourages refuge staff members to think to themselves, "I can use these resources to tell the story of the refuge."

The National Wildlife Refuge System preserves a range of cultural, historic and archaeological resources. These shards of hand-painted whiteware were found at Santee National Wildlife Refuge in South Carolina. (USFWS)



In the late 19th century, Longstreet Cabin at Ash Meadows National Wildlife Refuge in Nevada was built into a mound above an underground spring. As a result, the old stone cabin is cooler than outside temperatures and was used for food storage by its former owner. (USFWS)

The range of resources available to tell those stories is considerable.

"We run the gamut," says Marino. There are rice plantations in the South, prehistoric fishing sites in the Northwest, a steamboat in the Missouri River, historic homesteads across the West, dinosaur fossils throughout Montana, World War II resources in the Pacific and Alaska, Native American burial sites across the continent. "It never ceases to impress me – the breadth of history that we have on refuges."

Asked to point out a handful of lesser known Refuge System cultural resources, Marino, who has been a federal archaeologist for 21 years, mentions the earthworm plots at Patuxent Research Refuge in Maryland that Rachel Carson used to test her ideas about DDT.

He also cites approximately 100 Civilian Conservation Corps-era structures, many of them utilitarian-style buildings that are refuge maintenance shops; the Great Dismal Swamp Refuge Underground Railroad display in Virginia; Palmito Ranch, the site of the final battle of the Civil War, at Lower Rio Grande Valley Refuge in Texas; and Trail of Tears connections at Wheeler Refuge in Alabama, Tennessee and Chickasaw Refuges in Tennessee, Holla Bend Refuge in Arkansas and Sequoyah Refuge in Oklahoma.

Marino emphasizes that all refuges can – and should – use *cultural* resources to connect local communities to the refuges' *natural* resources. He points out two reasons why preserving cultural resources is vital.

"We owe how those refuges look to people from recent history and ancient history, and natural can't ever really be divorced from cultural, in my opinion," he says. "The other thing is: These things don't grow back. We're an agency that's used to resources that can grow back, and these things don't grow back. If an archaeological site is destroyed, it's gone."

The lighthouse at St. Marks National Wildlife Refuge in Florida was built in 1831. Last year, ownership of the lighthouse was transferred from the U.S. Coast Guard to the U.S. Fish and Wildlife Service. (Teresa Darragh)

Service Regional Archaeologists

The U.S. Fish and Wildlife Service has 15 employees who meet the Secretary of the Interior's qualifications for archaeologist/historic preservationist, including seven regional archaeologists:

- Pacific and Pacific Southwest Regions (shared): Anan Raymond
- Alaska Region: Ed DeCleva
- Southwest Region: David Siegel
- Mountain-Prairie Region: Meg VanNess
- Midwest Region: James Myster
- Southeast Region: Rick Kanaski
- Northeast Region: Amy Wood

More about Refuge System cultural resources is at *http://www.fws.gov/historicPreservation/*

A Race Against Time at Sandy Point Refuge

By Bill O'Brian

The Aklis site is an important pre-Columbian archaeological site in the Caribbean. Sandy Point National Wildlife Refuge manager Mike Evans has checked on its condition monthly for more than 20 years, daily during storms. He has collected hundreds of artifacts and remains that have fallen out of the coastal site on a weather-exposed promontory at the refuge.

Last summer, for the first time, he and his staff got help documenting and fortifying the site, which is highly subject to sea-level rise.

"Over the last 22 going on 23 years, basically I've watched it slowly wash away. Storm surges, hurricane events, heavy weather episodes definitely have an effect on shoreline erosion," says Evans, who has managed the refuge on St. Croix in the U.S. Virgin Islands since 1993. "Although we don't have specific metrics, I can tell you the general average calm-water wave action is higher now than it was 20-some years ago."

Help came to Evans in the form of 11 college students and their advisors who recovered loose artifacts and remains and shored up the prehistoric shell midden, habitation and burial site as part of a five-week field school coordinated by Mississippi State University, with help from the National Park Service (NPS).

"They basically were doing what we call salvage archaeology. In other words, they were working on the parts of the Aklis site that are most vulnerable to erosion," says Evans. "What they did was very significant, but there's a whole lot more that needs to be done."

The site dates to 200-300 A.D., about 1,200 years before Christopher Columbus arrived in the West. "Aklis has a little bit of everything. The people who were living there were probably growing some of their own food, but they were also taking advantage of all of the natural resources around them – a mix of farming and foraging. They were obviously tied to that spot on the landscape," says Derek Anderson, a Mississippi State archaeologist who oversaw the field school. "One of the most important things about the site, aside from the role it played in Caribbean lifeways, is the preservation."

Last summer, college students documented and fortified the Aklis archaeological site at Sandy Point National Wildlife Refuge in the Virgin Islands during a five-week field school coordinated by Mississippi State University. (Derek Anderson/Mississippi State University)

Human skeletal material is particularly well-preserved at the site, which predates Christopher Columbus' arrival in the Caribbean by about 1,200 years. (Bill O'Brian/USFWS)

Evans, who was a field archaeologist in Illinois and Puerto Rico before coming to Sandy Point Refuge, says human skeletal material is particularly well-preserved: "It can he handled. It can be worked with. It can be analyzed." The inhabitants likely were indigenous West Indian societies of the Ostionoid culture period who probably originated in Central and South America.

"At Aklis there is a true sense of wonder and excitement while excavating because the site is a treasure," says Kayleigh Sandhu, a field school student who recently graduated from Mississippi State. "One of the best things about working at Aklis was the hands-on bio-archaeology experience."

The site is large by island standards, at least four contiguous acres. It yields high-density, high-quality artifacts: tools made from conch shell and bone; pottery shards; and even complete ceramic bowls.

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New Life for a Historic House

By Susan Morse

If old houses tell stories, imagine those the Allee House could relate. The oldest standing house in the Refuge System, the colonial farmstead at Bombay Hook National Wildlife Refuge in Delaware dates to 1753. It has witnessed plantation farming, slaveholding and escapes along the Underground Railroad. Some of its secrets may never be known. But its past will stir curiosity for years to come, thanks to a Refuge System plan to restore the house, preserve its historic integrity and re-open it to public view.

Stabilization of the two-story brick Queen Anne-style house is set to start in August and last four to six months. Phase one budget: $624,000. Refuge manager Oscar Reed can't wait.

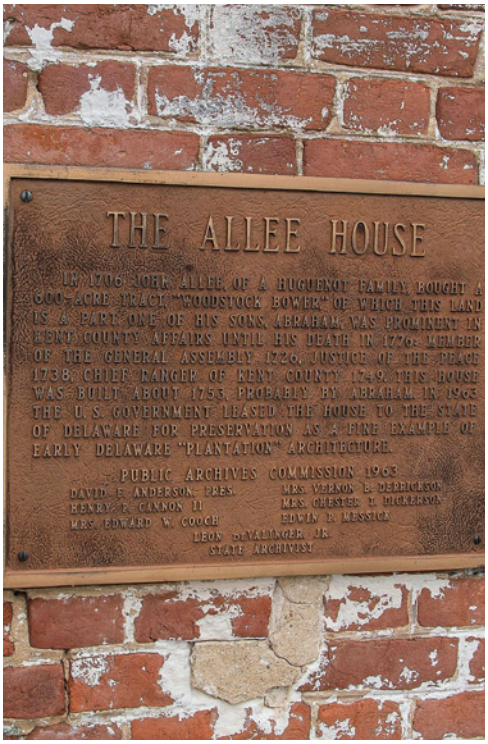
"From what I've been told, it's still a great example of an 18th-century house and in great shape for its age, even though it's got problems," he says. Scott Jones, project manager for the National Historic Training Center — the National Park Service unit contracted to lead the restoration work — agrees. He calls the house, listed on the National Register in 1971, "a snapshot in time."

It retains its large parlor fireplace, butterfly china closet and original wood panels. From the basement, ax marks are visible on the hand-hewn beams for the first floor. Few structural changes have been made besides a kitchen ell added in the last century.

Vacant and closed to the public since 2005, the house stands forlorn, with chunks of loose plaster scattered atop worn floorboards, and a dead bird trapped in an upstairs window. In the basement, with its earthen floor and inlaid brick, water seepage has bowed a foundation wall.

"The biggest challenge we face is controlling the moisture getting into the house," says Reed. "There's a relatively high water table here." Workers will rebuild the bowed wall, and re-contour the ground so water drains away from the house. They'll replace the leaking roof and rebuild the windows. An overhead power line – a 20th-century intrusion – will be hidden below ground.

The Allee House at Bombay Hook National Wildlife Refuge in Delaware is the oldest standing house in the Refuge System. It dates to 1753. (Kayt Jonsson/USFWS)



The Allee House is named for the Huguenot family of Reverend Pierre de Allie, who fled religious persecution in France. His son, John Allee, bought land

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Great Dismal Swamp: Refuge for Wildlife and People

By Karen Leggett

Norfolk State University professor Cassandra Newby-Alexander is leading a group of Virginia elementary and high school teachers to Great Dismal Swamp National Wildlife Refuge to learn about the Underground Railroad and communities of escaped slaves who lived in the swamp. What surprises the group most, Newby-Alexander says, is "that this history is right where they live and they didn't know about it."

Great Dismal Swamp is the largest remnant of habitat that once covered more than a million acres in southeastern Virginia and northeastern North Carolina. The refuge, which protects 112,000 acres, was established in 1974. Now, the swamp's cultural history is being recorded, preserved and shared.

Based largely on the ongoing archaeological work of American University associate professor Daniel Sayers, the refuge installed three interpretive panels along its auto tour route about the Great Dismal Swamp as a place of "Resistance and Refuge." The Underground Railroad Education Pavilion opened on the refuge in 2012. The pavilion, which is a stop on the National Park Service's Underground Railroad Network, tells the story of the escaped slaves known as maroons, a name derived from a French word meaning "to flee," according to the refuge website.

The swamp is home to quicksand and rattlesnakes, mosquitoes and bears. "Almost everyone wonders how in the world people could live out there in such a hostile environment year-round," says refuge park ranger Deloras Freeman. "Visitors may not have any interest in the biology, but the biology will have hold of you."

Great Dismal Swamp National Wildlife Refuge has conserved habitat in southeastern Virginia and northeastern North Carolina since 1974. Now, the refuge's cultural history is being recorded, preserved and shared by American University professor Daniel Sayers and his team. That history includes communities of escaped slaves who lived in the swamp. (Courtesy of Dan Sayers/Great Dismal Swamp Landscape Study)

Newby-Alexander leads teachers to Lake Drummond, where she reads a Henry Wadsworth Longfellow poem, "The Slave in the Dismal Swamp" (*http://bit.ly/1H9VSEz*). Then, the teachers write lesson plans. One plan involves constructing a diary of a person who was captured after growing up in the swamp. Another asks children to empathize with slaves who wanted to escape to find missing family members. A third is about edible vs. harmful plants.

Since 2009, Sayers has brought college summer school students to the refuge for the Great Dismal Swamp Landscape Study, a partnership between American University and the U.S. Fish and Wildlife Service funded by the National Endowment for the Humanities. They hike through muck and brambles for an hour before getting to drier, elevated mesic islands where Sayers has uncovered evidence of two centuries of maroon life – post holes, nails, lead shot and tobacco pipes. Sayers says many artifacts are smaller than a pea, because everything was used until almost nothing remained.

Canals on the refuge supported a commercial logging industry. Enslaved laborers built the canals and the settlements next to them. The maroons provided game to the laborers and traded with the timber workers for knives, cloth and flour.

"These groups are very inspirational," says Sayers. "Society will get a sense of how one still has the ability, as an individual and a community, to really take control over a situation."

The National Museum of African American History and Culture, which is scheduled to open next year on the National Mall in Washington, DC, will include a display of artifacts from Sayers' digs. Great Dismal Swamp Refuge manager Chris Lowie believes it will help

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Shedding Light on Nature and History

By Megan Nagel

Perched atop the cliffs on the northernmost point of Kauai, the Daniel K. Inouye Kilauea Point Lighthouse has stood guard for more than 100 years. Mariners relied on the lighthouse to mark the first landfall as they traveled from Asia. Now, the lighthouse stands guard over Kilauea Point National Wildlife Refuge and the seabirds that call those cliffs home.

Dedicated as the Kilauea Point Light Station in 1913, the lighthouse has long played a prominent role in the local community. After advances in navigational technology and the installation of an automated beacon, the U.S. Coast Guard decommissioned the lighthouse in 1976. The Coast Guard transferred the property to the U.S. Fish and Wildlife Service in 1985.

The lighthouse now is a landmark at one of the most visited refuges in the National Wildlife Refuge System. Thanks to a 2013 restoration and strong support from Friends, volunteers and the community as a whole, the lighthouse welcomes about 500,000 visitors annually.

"The lighthouse has an incredible history. When it was built, there were no roads or motorized vehicles on Kauai, so all materials had to be shipped by sea. The first lighthouse keepers were provisioned from the lighthouse tender ship *Kukui* [Hawaiian for lamp/light/torch] that anchored in a cove next to the point. This continued until 1927, when roads were built out to the lighthouse," says Kilauea Point Refuge supervisory park ranger Jennifer Waipa.

"A lighthouse keeper and his assistants were responsible for lighting and extinguishing the lamp each day at sunrise and sunset. They split shifts throughout the night – winding the clockwork for the lamp, trimming the wick and recording the nights' activities. They lived right here, near the lighthouse."

The Daniel K. Inouye Kilauea Point Lighthouse attracts visitors from all over the world to Kilauea Point National Wildlife Refuge, where they are shown conservation and culture simultaneously. (Megan Nagel/ USFWS)

In 1979, the lighthouse and the three lighthouse keeper cottages were placed on the National Register of Historic Places.

In 2013, during the lighthouse's centennial, the structure was renamed for the late Sen. Daniel K. Inouye in honor of his distinguished career and longtime support of conservation in Hawaii and at Kilauea Point Refuge.

Irene Hirano Inouye, the late senator's wife, said about the renaming, "Dan placed a high priority in preserving pristine lands throughout Hawaii to ensure that future generations are able to enjoy what we oftentimes take for granted. Dan and I visited the Kilauea Point Lighthouse a few years ago and were taken by the overwhelming community support for its preservation."

Indeed, the refuge works closely with its Friends group, the Kilauea Point Natural History Association, to interpret the history of the lighthouse and refuge. The association was key in the effort to restore the lighthouse and its Fresnel lens.

"The original lighthouse lens, designed by Augustin-Jean Fresnel, was manufactured in, and shipped from, France so the installation instructions were in ... French!" says Louise Barnfield, an association member and volunteer lighthouse tour guide. "Nobody on Kauai spoke French, so a translator was ferried from Oahu and then had a 20-mile horse ride to reach Kilauea Point."

The refuge and association provide volunteers who lead lighthouse tours that expose people from all over the world to nature and history simultaneously.

"Those who come to visit the lighthouse learn so much about the refuge in terms of the seabirds and humpback whales. And those who come for the wildlife suddenly see this magnificent lighthouse," says Barnfield. "So, we can give our visitors a whole new experience above and beyond what they came for."

Megan Nagel is a public affairs officer in the Pacific Region office in Portland.

Teaming Up to Respect a Sacred Landscape in Nevada

By Amy LaVoie

The Black Canyon at Pahranagat National Wildlife Refuge in southern Nevada is home to petroglyphs and pictographs that are of major cultural and spiritual significance to Nuwuvi tribes. This summer Nuwuvi, the U.S. Fish and Wildlife Service and other partners are finalizing a plan that will showcase the sacred rock writings as well as respect them.

For years, refuge managers have struggled with public use in Black Canyon, which was recently designated an archaeological district under the National Historic Preservation Act of 1966. Management strategies have varied greatly, from complete closure to expanded public access. The canyon includes at least 148 petroglyph panels among 37 archaeological sites across 400 acres. There is no interpretive messaging about the site's cultural importance, which has resulted in such unanticipated disturbances as bullet holes in petroglyphs and other vandalism.

Building on past successes of cooperative consultation – see July/August 2012 *Refuge Update (http://1.usa.gov/1Rog48B)* – the Service, Nuwuvi representatives, The Mountain Institute, Portland State University and local stakeholders came together three years ago to tackle complex public use issues related to Black Canyon. That team is putting the final touches on an interpretive and site use plan that will serve as a long-term guide for the development of facilities and for protection of the canyon's cultural, scenic, recreational and natural resources.

The plan, which likely will include trails, viewing areas and signage to educate the public about the human connections to the delicate landscape, is to be released this summer.

Nuwuvi, which means "The People," are also known as the Southern Paiute tribes. Their involvement has been vital.

Nuwuvi – or Southern Paiute tribes – consider these petroglyphs in Black Canyon at Pahranagat National Wildlife Refuge to be alive and interconnected with natural resources. (Jeremy Spoon/The Mountain Institute/Portland State University)

"Consulting in partnership with Nuwuvi on this project is so important," says Kevin DesRoberts, deputy project leader at Desert National Wildlife Refuge Complex, which includes Pahranagat Refuge. "They bring unique perspectives about how to treat the land in a respectful manner as part of their spiritual and cultural connections. As the original inhabitants and caretakers of this area, Nuwuvi understand and know how important it is to interact with the land and its resources."

A mutual desire for early and ongoing tribal involvement enabled the team to provide material incorporating a dynamic understanding of living Nuwuvi culture – a reflection of current reality and a connection to ancient wisdom with an eye toward the future.

"Pahranagat [Refuge] is strong and helps shape our cultural landscape. It is made up of delicate resources that are extremely unique to this area and considered special because of what happened here and the power that this place holds," Nuwuvi representatives say.

Nuwuvi are taught that rock writings represent spiritual beings to be honored in songs, stories and prayers. These beings, according to Nuwuvi, help keep the world in balance. They live and communicate with other beings and resources to increase their great power and wisdom. The images located in Black Canyon play a vital role in weaving the elements of nature together to sustain harmony within the Pahranagat Valley and throughout traditional Nuwuvi homelands.

The team's plan will include a 20-year vision and five-year action plan for addressing evolving needs at Black Canyon. Funding for initial public use elements likely will be obtained in 2016. Future co-management and stewardship in the canyon will ensure the landscape remains in balance and thrives.

Amy LaVoie is manager at Moapa Valley National Wildlife Refuge. She was acting manager at Pahranagat National Wildlife Refuge from 2011 until earlier this year. Richard Arnold of The Mountain Institute and the Pahrump Paiute Tribe, and Jeremy Spoon of The Mountain Institute and Portland State University contributed to this article.

Plankhouse Links Tribal Past and Refuge Present

By Virginia Parks

On the morning of November 5, 1805, Captain William Clark complained in his journal about his accommodations on the banks of the Columbia River. "I slept but very little last night for the noise Kept during the whole of the night by the Swans, Geese, white & Grey Brant Ducks &c," he wrote, grumbling that his avian neighbors "were emensely numerous and their noise horid."

The Lewis and Clark expedition made camp on what is now Ridgefield National Wildlife Refuge in Washington state just upstream from Cathlapotle (pronounced Cath-lah-poh-tul), one of the largest Chinookan villages on the Columbia.

The Cathlapotle Chinookans already had lived there for centuries, plying the waters in expertly crafted canoes and utilizing many of the same plant and wildlife species present on the refuge today. They built large cedar plankhouses. According to his journal, Meriwether Lewis counted 14 of them. The Chinookans also had a vibrant culture revolving around the land and resources that sustained them.

Today, people come to the refuge to experience the hundreds of birds that kept Clark awake more than 200 years ago. But they also come to learn about the people who lived here long before the explorers arrived.

The explorers' description of their brief visit to Cathlapotle offered the world a glimpse of the people and place. Two centuries later, the U.S. Fish and Wildlife Service and its partners share the stories of Cathlapotle via a full-scale Chinookan-style cedar plankhouse.

Built using data gleaned from archaeological excavations conducted through a partnership among the Service, the Chinook Tribe and Portland State University, the Cathlapotle Plankhouse serves as a venue for interpreting the Lower Columbia River's rich cultural and natural heritage.

The modern plankhouse at Ridgefield National Wildlife Refuge in Washington state represents hundreds of Chinookan plankhouses that dotted the banks of the Columbia River long before Lewis and Clark arrived in 1805. (Bill O'Brian/USFWS)

The Chinookans also had a vibrant culture revolving around the land and resources that sustained them.

More than 100 community volunteers donated 3,000 hours over two years to build the plankhouse, which opened in 2005. At the opening ceremony, then-Chinook tribal chairman Gary Johnson said that the plankhouse "is really important in showing what the tribe is doing. It adds to our tribal history, and it helps show the path of our tribe's survival."

This year the plankhouse is celebrating its 10th year engaging thousands of local students and visitors from around the world. The ongoing partnership with the Chinook Tribe and the dedication of community volunteers who operate the educational and interpretive programs are the primary reasons for the plankhouse's success.

Tribal acting chairman Sam Robinson sits on the board of the Friends of the Ridgefield National Wildlife Refuge and serves as plankhouse liaison to the tribe. He often provides the tribal welcome for plankhouse programs, building an important bridge for visitors between the past (represented by the archaeological remains) and the present (represented by the living traditions of native people).

This spring, Robinson stood inside the plankhouse welcoming tribal members, volunteers and community

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Great Dismal Swamp: Refuge for Wildlife and People — *continued from page 10*

draw visitors to the refuge and attention to the maroons.

"These were important people in the history of the United States," says Sayers. "They did radical things with their lives. They said 'no,' and said it in a big way and went into the swamp. It's too important to have only one perspective on it. I hope other people join in and further our knowledge of this people and their history."

Karen Leggett is a writer-editor in the Refuge System Branch of Communications.

Interpretive panels at Great Dismal Swamp National Wildlife Refuge tell the story of escaped slaves known as maroons, a name derived from a French word meaning "to flee." (Bruce Williams)

New Life for a Historic House — *continued from page 9*

in Kent County. John's son, Abraham, built the Allee House; it may have been the fourth house at this site, says an archaeological review.

With the help of slaves, Abraham Allee ran a large plantation. He switched the main crop from tobacco to wheat as grain prices rose, produced salt hay in the marshes, and ferried crops by canal to coastal ports. A public figure, Allee served as a General Assembly member, a justice of the peace and chief ranger. He also headed a family of five children. He died in 1776.

The house stayed in Allee family hands until 1828. A series of owners followed. In 1962 it was sold to the U.S. government and absorbed into Bombay Hook Refuge. The government leased the house to the State of Delaware, which renovated it in 1963-65 and allowed public viewing until 1993. Responsibility for the house then reverted to the refuge. Refuge staff and, later, volunteers, lived in the house and gave tours until it became unsafe in 2005.

Restoration of the house – with period-correct materials – will provide a training opportunity for refuge wage-grade employees. They will take that know-how home to their refuges. The refuge's future use of the property isn't yet clear. "Certainly, interpreting the house is one of our top priorities," says Reed. "We have to see how far the repair budget will go."

Meanwhile, the old house will get the help it needs to endure – and keep its stories intact. "The structure seems rock solid," says Reed. "It's impressive that it has stood the test of time."

Susan Morse is a writer-editor in the Refuge System Branch of Communications.

A Race Against Time at Sandy Point Refuge — *continued from page 8*

Some are "high-end ceremonial material, shell and bone material that's been incised and etched with designs," says Evans, "polychrome bowls with paint from 1,000 years ago."

All material goes to the Southeast Archeological Center, an NPS repository in Florida.

"The better we understand how pre-Columbian people survived and were able to make a living, the better we'll understand about what we're doing now," says Evans. "Studying the archaeological record tells us what these ecosystems were really like." Knowing how fisheries resources and other natural resources supported the population then, Evans says, gives modern conservationists insight into how to manage resources now.

Tight finances precluded the field school from returning this summer. "It's important that we return in 2016," Anderson says, "because archaeological material is going to continue washing away. Information is being lost on a daily basis. So if we're not there to document it, it will disappear forever."

Did You Know That …

- … there are 10 National Historic Landmarks, 110 National Register-listed properties, 384 paleontological sites, 1,815 historic structures and 15,441 archaeological sites within national wildlife refuges? The Refuge System also manages about 4.2 million museum artifacts.
- … John Hay National Wildlife Refuge in New Hampshire consists of the former estate of John Hay, who was private secretary to Abraham Lincoln, ambassador to Great Britain and Secretary of State under Presidents William McKinley and Theodore Roosevelt? The historic buildings and immediate grounds and gardens are managed through an agreement with a Friends group. The remainder of the 164-acre refuge is managed for migratory birds and resident wildlife by the U.S. Fish and Wildlife Service.
- …legend has it that Britain's navy used the 14-foot rock jutting out of a bay at Target Rock National Wildlife Refuge on Long Island, NY, for target practice during the Revolutionary War and the War of 1812?
- … from 1880 to 1910, what is now Blackbeard Island National Wildlife Refuge in Georgia was a federal marine quarantine station for yellow fever? Ships bound for U.S. southern Atlantic ports were required to report to the island for inspection and, if necessary, disinfection. Once disinfected, the ships were allowed to continue to their destination.
- … Kenai National Wildlife Refuge in Alaska is home to a handful of restored historical cabins built by early residents of the Kenai Peninsula? Cabins can be reserved by the public for rustic lodging.

John Hay National Wildlife Refuge in New Hampshire is part historic estate and part refuge managed for migratory birds and resident wildlife. (TheFells.org)

- …. the Pony Express established a station in the mid-1800s at what is today the Thomas Ranch Watchable Wildlife Area at Fish Springs National Wildlife Refuge in Utah?
- … the site that is now Fort Niobrara National Wildlife Refuge in Nebraska was a U.S. military reservation from 1879 to 1906? It was established to keep peace between settlers and the Sioux Indians and to control cattle rustlers and horse thieves. During those 27 years, soldiers fought no recorded battles. The Army closed the fort in 1906, but it was used to supply fresh horses for the U.S. Calvary until 1911.
- … Kofa National Wildlife Refuge derives its name from a prominent gold mine that was established near the turn of the 20th century – the King of Arizona (KofA) mine.
- ... the namesake bird of Attwater Prairie Chicken National Wildlife Refuge in Texas is named for Henry Philemon Attwater, a naturalist and conservationist who was born in England and immigrated Canada before moving to Texas in 1889?
- ... Izembek National Wildlife Refuge in Alaska is named after Karl Izembek, a surgeon aboard a Russian sloop, the Moller, that wintered in Bechevin Bay during the first coastal explorations of the area by white men in the 1820s?
- ... Aroostook National Wildlife Refuge in Maine is situated on part of the former Loring Air Force Base, which played a key role in the Cold War with the Soviet Union? The U.S. Strategic Air Command (SAC) was stationed at the base from 1950 to 1994, flying long-range bombers capable of delivering nuclear weapons.

Around the Refuge System

Montana

A $200,000 renovation will transform the Whaley Homestead, a two-story log cabin at Lee Metcalf National Wildlife Refuge, into a small museum to give visitors a view of how the land and its culture have changed over the past 130 years. The homestead was built in 1885 by Peter Whaley, a miner and salesman who worked with local Flathead Indians. "A refuge having a cultural site like this one is extremely valuable," said Bob Danley, the refuge's outdoor recreation planner. "It tells the familiar story of the era's hardships, search for freedom, and asking, 'How can I make it?' " Exhibits are expected to include a timeline of the landscape from the mid-19th century to today and profiles of the families that have lived on the 160-acre tract less than a mile from the Bitterroot River. The homestead will be furnished with period-specific pieces. "Our main objective is to get people to imagine how the land used to be," Danley said. Renovations are expected to be completed in 2017.

2016 America the Beautiful Pass

A photograph of a polar bear and her cub at Arctic National Wildlife Refuge in Alaska will be displayed on 2016 annual, military and volunteer America the Beautiful Federal Lands Recreation Passes, required for entrance to national parks, national wildlife refuges and other federal lands that charge entry fees. It will be the first time a Refuge System photograph has been on the passes since 2010, when sandhill cranes at Bosque del Apache Refuge, NM, were featured. The Arctic Refuge polar bear photograph, taken by Gregory (Cameron) Teller, earned its place on the 2016 passes because it was the grand prize winner of the 2014 Share the Experience photo contest. The contest is sponsored by federal recreation land agencies, the National Park Foundation and corporate entities.

Minnesota

The U.S. Fish and Wildlife Service Midwest Region and the Red Lake Band of Chippewa Indians signed a memorandum of understanding to enhance 12,000 acres of forest habitat on the Red Lake reservation that will benefit the American woodcock, golden-winged warbler and other species.

This photo of a polar bear and her cub at Arctic National Wildlife Refuge in Alaska will be displayed on 2016 America the Beautiful Federal Lands Recreation Passes. (Gregory Teller)

Tamarac National Wildlife Refuge, the Partners for Fish and Wildlife Program and the American Bird Conservancy will collaborate with the Red Lake Band's Department of Natural Resources to support management actions that treat dense old-growth brushlands while retaining a mix of young and mature trees to better diversify the forest. The American woodcock and golden-winged warbler depend on young forests' openings and diverse shrub layers to provide nesting opportunities. "The golden-winged warbler utilizes both young and old forests for two different stages in life. The warbler will utilize the young forest to nest and rear its young while using older trees for claiming territory and foraging for food," says Peter Dieser of the American Bird Conservancy.

Alaska

- Kenai National Wildlife Refuge hosted the 2015 Youth Game Warden Camp for 40 fourth-, fifth- and sixth-graders this spring. The camp was a collaborative effort among natural resources agencies to provide young people with an opportunity to learn about conservation stewardship and being a game warden. Campers learned game warden skills in real-life field scenarios, while partnered with a real game warden. The camp engaged youngsters in activities such as wildlife forensics, wildlife management and law enforcement, wildlife robotics, archery, and antler, skull and duck identification. Game wardens, fisheries and wildlife managers, biologists and volunteers from the Alaska Federal Wildlife Officers, Friends of the Kenai Refuge, Alaska Wildlife Troopers, Alaska State Parks, U.S. Forest Service, Alaska Department of Fish & Game, National Oceanic and Atmospheric Administration, National Park Service and the local chapter of 4-H helped with the weekend camp.

- Members of the Kodiak National Wildlife Refuge 2014 Youth Conservation Corps (YCC) crew made presentations in February at the annual Alaska Forum on the Environment Film Festival in Anchorage. Sixteen-year-old Kyla Villaroya was selected to join the forum's keynote speaker, Ann Mayo-Kiely of Alaska Geographic, who praised Villaroya's "Spilling the Truth" video. The video *(http://bit.ly/1OMUAnS)*, which showcases the 25th anniversary of the 1989 Exxon oil spill and spill prevention, is designed for elementary schoolchildren. Other Kodiak Refuge YCC members made presentations, too. Eunice Cortez, 18, and Leila Pyle, 19, discussed the benefits of engaging youth and career opportunities in public land agencies. Katrina Courchaine, 17, shared a video that gives tips for living safely in bear country. Rubylynn Ulatan, 18, presented a video about marine debris and tips for prevention.

Indiana

Three rare birds were sighted at Patoka River National Wildlife Refuge in April. First, a local middle school teacher saw a black-tailed godwit, a shore bird usually seen in Western Europe, Africa, Asia and up to Iceland. Refuge wildlife specialist Heath Hamilton said it was extremely rare for the species to be spotted this far inland in the United States. He estimated about 300 people visited the refuge to see the bird, some from as far away as Louisiana. A week later, two other rare Eurasian shore birds – a curlew sandpiper and a ruff – were seen on the western end of the refuge, which is in the southwestern part of the state near the Wabash River Flyway. "They were also life-listers for most of the birders," said Patoka River Refuge manager Bill McCoy.

Washington

Ridgefield National Wildlife Refuge is celebrating its 50th anniversary with the help of Pelican Brewery of Pacific City, OR. To honor the anniversary the brewery has produced a limited edition label for its Imperial Pelican Ale. The label includes the phrase "Celebrating 50 years of conservation," images of 50 animal species and a QR code that links to a Friends of the Ridgefield National Wildlife Refuge web page *(http://bit.ly/1Q1XPTR)*. The brewery plans to distribute the bottles throughout Washington, Oregon, Idaho and Hawaii until at least the end of 2015. Refuge manager Chris Lapp came up with the idea to cooperate with the brewery on the anniversary, and refuge administrative assistant Mesha Wood helped design the label. Ridgefield Refuge was established on May 18, 1965, to provide wintering habitat for dusky Canada geese, whose main nesting area was disrupted and changed by the Great Alaska Earthquake of 1964. Today the refuge also provides habitat for endangered Columbian white-tailed deer.

North Dakota

Lisa Lang and her family are regular visitors to Arrowwood National Wildlife Refuge. This spring, she took this photo of her daughter Emilie, 8, on the accessible ramp that connects to a wildlife observation platform along the refuge's auto-tour route. Historic flooding in 2009 destroyed the ramp, and money was unavailable to replace it until last summer, when Federal Highway Administration transportation-related interpretive and visitor facilities funding became available to the U.S. Fish and Wildlife Service Mountain-Prairie Region transportation program. Arrowwood Refuge staff members Bill Riebe and Tim Driscoll completed the repairs. The ramp is now anchored in concrete to be more flood-resistant.

Louisiana

The U.S. Fish and Wildlife Service and Phi Beta Sigma Fraternity signed the first local agreement implementing a partnership to encourage urban youth to learn more about conservation, the natural world and biological sciences. The agreement declares Bayou Sauvage National Wildlife Refuge in New Orleans a model partner site for efforts with the African-American fraternity. The multi-faceted partnership will engage members of the fraternity's youth auxiliary, Sigma Beta Club, in hands-on activities with scientists to learn about wildlife, science and conservation by participating in real scientific studies and conservation efforts. Service Deputy Director Steve Guertin, a signatory to the agreement, called it "a great way to reach out to people who may not think about visiting a national wildlife refuge, or science-based conservation careers." This local partnership is the first on-the-ground action to implement the national memorandum of understanding the fraternity and the Service signed in April 2014.

Martinez Is Named Chief of the Refuge System — *continued from page 1*

development of the *Conserving the Future* vision and its ratification at a July 2011 conference in Madison, WI. As Refuge System deputy chief, she led implementation of *Conserving the Future* and one of its major initiatives, the Service's Urban Wildlife Conservation Program.

Martinez has indicated that as chief she plans to continue to focus on ensuring that work at Headquarters benefits Service employees in the field.

"I embrace the national perspective and will be trying to influence those things we do at the national level to guide what we do on the ground," she said in an interview with The Wildlife Society. "We work in these majestic places, and I think it's important to connect with people so our employees can share their passion for what they do and the wild things and places they are entrusted with. We have to do as much as we can to give folks the tools that they need to make these connections."

In a mid-May message to Service employees who work on refuges, she wrote: "The National Wildlife Refuge System represents our promise to the American people – forged 112 years ago, expanded with *Fulfilling the Promise* and being built upon as we implement *Conserving the Future* – that there will always be places for wildlife in our midst. That we work for the benefit of all people. That we are ensuring that wildlife will flourish, on all our wildlife refuges, and future generations will reap the rewards. And that we will never forget our roots."

Martinez, a native of New Mexico, is a graduate of New Mexico State University (bachelor's degree in general biology) and the University of Arizona (master's degree in fisheries and wildlife science).

Cynthia Martinez, a 21-year veteran of the U.S. Fish and Wildlife Service, became National Wildlife Refuge System chief in May. Here she holds a scarlet Hawaiian honeycreeper (i'iwi) at a banding station at Hakalau Forest National Wildlife Refuge. (USFWS)

Martinez succeeds Jim Kurth, who was Refuge System chief from October 2011 until January 2015 before being promoted to Service deputy director for operations.

Plankhouse Links Tribal Past and Refuge Present — *continued from page 13*

supporters reuniting for the 10th anniversary celebration while his 10-year-old granddaughter, Destany Reeves, staffed her volunteer post outside. As Robinson points out, Destany has grown up with the plankhouse, attending winter tribal gatherings and singing with the drum circle.

Robinson sees the plankhouse as a place that reaffirms tribal identity for Destany and other tribal members.

"The plankhouse comes from the Tree of Life, the cedar tree," he says. "As with our canoes, the Chinook feel that the plankhouse shares the soul of that tree. The house has been blessed, and we maintain fires there for its spirit as well as ours. I believe that this makes our ancestors proud."

Virginia Parks is a U.S. Fish and Wildlife Service archaeologist based in Sherwood, OR.

Destany Reeves, now 10, has grown up learning and sharing her Chinookan heritage at the Cathlapotle Plankhouse at Ridgefield National Wildlife Refuge in Washington state. (USFWS)

Portland-Vancouver Refuges Aim to Be Bold and Audacious

— *continued from page 1*

In April, the Service announced that the Portland-Vancouver Urban Wildlife Conservation Program will receive $1 million above base annual funding to engage urban communities. The program includes four refuges – Tualatin River and Wapato Lake in Oregon, and Ridgefield and Steigerwald Lake across the Columbia River in Washington.

It is the Service's second $1 million urban refuge project. Last year, San Diego National Wildlife Refuge Complex was chosen to manage the SoCal Urban Wildlife Refuge Project.

"Bold, hairy and audacious: It doesn't just describe our critters; it describes our approach," the Portland-Vancouver Urban Wildlife Conservation Program proposal states. "We are talking about a cultural shift, inside and outside the Service. Lest we become mere static in a sea of modern-day stimulus, we must engage new audiences in new ways, and do so in a manner that can be modeled across America's urban landscapes … if any of these ideas make you nervous, remember: you asked for it!" when the Service called for urban refuge proposals.

Working with the Intertwine Alliance, a coalition of 140 private firms, public agencies and nonprofits dedicated to preserving greenspace and engaging Portland-Vancouver residents with nature, the urban program will stress five areas:

Equity and Inclusion – From providing fishing gear for Soul River Excursions, which serves at-risk youth and veterans, to hosting traditional Mexican Dia de los Muertos (Day of the Dead) events, the program will connect people of all cultures to nature.

Health – For starters, the program will help build a nature play area and an inter-tribal gathering garden on a former brownfield in the under-served Cully neighborhood of Portland.

Education – Among other efforts, the program will help the Oregon Zoo design a new conservation education center. "We're looking at the zoo as a storefront for the Service," says Strassburg. "They get 1.6 million visitors a year."

Public Engagement – The goal is to foster cooperation and minimize duplication in the local conservation community. "We're trying to avoid random acts of kindness and parallel tracks that are not connected," says Strassburg.

Youth Engagement – The program will use roughly $100,000 annually to hire youth in conservation settings. "Those youth are smart, they're innovative, forward-thinking, and they're the future. So let's give them real money to do real work, make real decisions," says Strassburg.

A North American bald eagle perches in suburban Portland at Tualatin River National Wildlife Refuge. (Bill O'Brian/U.S. Fish and Wildlife Service)

The four refuges have distinct roles.

Tualatin River Refuge southwest of Portland is "kind of home base for the urban program," says Erin Holmes, refuge manager since 2011. At Wapato Lake Refuge, farther southwest on the edge of exurban sprawl, she says, "we have a chance at the very beginning of urbanization to connect to people and to show them the benefits of having a national wildlife refuge in their backyard."

Ridgefield Refuge is a model of community-refuge cooperation. The city, port and schools are working with the refuge on sustainability, environmental restoration, recreational and wildlife management issues *before* urbanization engulfs the northwestern edge of Vancouver's sprawl.

Steigerwald Lake Refuge, east of Vancouver just inside the Columbia River Gorge National Scenic Area, is a gateway to area refuges for locals and tourists.

The urban program, "at heart, is a tool for conservation just as much as restoration, just as much as environmental education and a lot of our traditional ways of connecting with people are," says Strassburg.

For Tualatin River Refuge manager Holmes, "it's very inspiring to be out there on a trail and to hear the highway and see the houses, but see the little kid looking at the salamander or looking at the wood duck. For me, it's like, 'You can have both.' There's got be a balance, but there is a way to connect with people. That's what I love about this program. It's not necessarily about bringing people here. It's about reaching them in their backyard."

*Refuge*Update

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A Look Back ... John Gottschalk

John Gottschalk began fishing as a boy in Indiana, rowing the boat while his grandfather trawled for pike. He never thought of fishing as a career. But by the time he was 25, he was superintendent of fisheries in Indiana. He began working for the U.S. Fish and Wildlife Service in 1945 in Montana, coming to Washington a few years later to lead the program that returned the excise tax on sport fishing tackle as matching grants to the states. In 1957, Gottschalk became the first chief of the Division of Sport Fisheries.

Gottschalk, who died in 1999, used to tell the story of becoming director of the Service in 1964, revealing the simplicity of federal hiring then. Interior Secretary Stewart Udall asked former director Ira Gabrielson and the head of the Sport Fishing Institute whom they would recommend for the job. Both said Gottschalk. He was hired and served as director until 1970.

There was a constant battle for funds for conservation during the Vietnam War years. Gottschalk recalled being told two years in a row to close 10 hatcheries and 10 refuges – but "Congress would not let us close any of these facilities … they just didn't give us any money."

John Gottschalk (1912-1999) had a lifelong love of fishing. He was U.S. Fish and Wildlife Service director from 1964-70. (Courtesy of Gottschalk family)

Gottschalk is credited with initiating the first formal endangered species program, several innovative waterfowl management concepts and the search for a lead shot substitute. He played an important role in establishing Great Swamp National Wildlife Refuge in New Jersey, one of the country's first urban refuges. The Refuge System added more than 500,000 acres of habitat during his tenure.

Gottschalk received multiple awards, including the Distinguished Service Award from the Department of the Interior, and was a life member of the American Fisheries Society, The Wildlife Society, the Whooping Crane Conservation Association and the Izaak Walton League.

Gottschalk took greatest pride, however, in his contribution to pesticide research and the resulting ban on DDT in 1972. "The only thing I want my grandchildren to remember about me is that I was the director when the work was done at Patuxent [Wildlife Research Center]. I was the guy that fought in the Congress … led the charge to get the money for this work."

Follow the National Wildlife Refuge System on Facebook at *www.facebook.com/usfwsrefuges* and Twitter@USFWSRefuges.

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